

SEPTEMBER 2013

Northern Corridor Transit & Transport Coordination Authority

INNOVATIVE CORRIDOR PERFORMANCE MONITORING



**TRANSPORT
OBSERVATORY
PROJECT**

RELIABLE NORTHERN CORRIDOR PERFORMANCE DATA





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Foreword

The Transport Observatory (T.O) is a tool that was established to provide information to the users and regulators along the Northern Corridor to measure the performance of the corridor and identify areas that require improvements. The NCTTCA Secretariat generates periodic reports of the T.O to update stakeholders about the performance of the Corridor.

This important tool has evolved over the years to adopt with the changing times of corridor performance monitoring. Not only have the Corridor performance indicators taken different shapes over the years but also methodologies of the surveys undertaken. Technology evolves by the day and it is always important that any initiative moves along with emerging technological developments. Northern Corridor Transport Observatory equally has not been left behind in these emerging issues. The GPS Survey is one such initiative implemented together with Kenya Transporters Association (KTA) to collect information along the corridor. This approach is a unique blueprint on performance monitoring for Corridors in Africa.

GPS Based survey that officially commenced in April 2013 is currently ongoing, as it is an all year round activity, covering all Northern Corridor Member States transiting from Port of Mombasa to the various countries. This survey is intended to cover the various transit routes and nodes with the primary objective of monitoring transit times and delays. This report pays specific attention to the finding of the GPS survey as the main component. Measuring of performance of the various nodes has been made possible by the various activities on Geo zoning/fencing undertaken by the Secretariat to ensure reliability of the results. Data collection has been made possible by very supportive KTA members who have allowed their drivers to participate in this regional initiative.

The various stakeholders with automated or computerized systems have been very key in Northern Corridor Observatory work. We have continued to source for the electronic operations data as the main source of raw facts used in the Transport Observatory. Stakeholders have been providing data on quarterly and monthly basis enabling the Secretariat to consistently publish such reports for the corridor. The various data sources continue to ensure complementarity and redundancy of the data as well as results analyzed and published. These are very critical aspects that guarantees reliability of the TO results.

Northern Corridor Stakeholders, especially those providing electronic data, have been urged to continue adopting better ways of sharing data to make this initiative more sustainable for the benefit of all the direct and indirect corridor users and to the region. It is critical that data sharing is automated to also reduce manpower involved as well as possible human errors.

Participation the new Member state of NCTTCA, South Sudan, in the TO work is now a key focus of the Secretariat. Recent sensitization work in South Sudan has shown great potential and opportunities for the country and the Secretariat is keen to walk with the people of South Sudan stakeholders.

NCTTCA has recently taken up a key role for the Mombasa Port Community and the region at large to monitor few specific indicators on port and corridor performance on a weekly basis and inform the stakeholders on the most recent status. This has provided a great opportunity for the T.O information to reach out to more stakeholders frequently.

This 3rd edition of the Transport Observatory series of reports is unique due to the GPS aspect that has not been featured in our previous publications. It also provides reliable information as it is evident from the various data sources measuring the same aspects giving similar results.

This report highlights some notable findings like delays or stops by the trucks along the Northern Corridor are mostly occurring due to personal issues. Also, trucks are spending most of the time in the yards of the transporters before commencing their journey. The current focus in reducing transit time has seen the transit time reduce considerably; on average most trucks take between 2 and 3 days to travel from Mombasa to Malaba (excluding the time spend before start of journey).

It is also evident that much of the delays at Malaba border post are on the Ugandan side where clearing agents prepare fresh customs entries and execute fresh customs bonds. Possible solution is use of Customs Pre-entry and the use of the Single Customs Entry and the Regional Customs Bond Guarantee to cover the goods from the port of entry up to destination.

Thus, the NCTTCA lauds the new initiative championed by the Northern Corridor Heads of States to expedite the movement of goods towards a seamless corridor.

Furthermore, during the validation of this report the stakeholders confirmed that results presented in this report depict the actual situation on the ground.

It is paramount that all the players in transport and trade sector consider this paramount tool to inform their decision making process both at policy and technical or operations levels to improve the status of our corridor in the spirit of making it seamless.

Donat M. Bagula
Executive Secretary



Acknowledgements

With utmost gratitude the Secretariat appreciates the support they have continued to receive from the Council of Ministers of the Northern Corridor Member States, the Executive Committee, the various Specialized Technical Committees of the NCTTCA, the Stakeholders Forums and the Experts involved in validating this 3rd Quarterly Northern Corridor Performance Report.

Special thanks goes to TradeMark East Africa for their continued support in funding the Transport Observatory activities. Our appreciation goes to the CEO, Deputy CEO's, Directors and Officers involved in making this support the success it is today.

The Secretariat is also grateful for the cordial collaboration with Kenya Transporters Association (KTA) that has been made possible through the activities relating to surveys that KTA have undertaken together with the Secretariat. The time and efforts of various transporters that have participated in this work is highly valued.

The various organs and individuals have each played a key and unique role in continuing to shape the Transport Observatory ensuring that it provides reliable performance information. The various stakeholder seating in these organs have not only provided their guidance but also the most curtail part of the Transport Observatory, the data used in analysis. The data providers include Revenue Authorities, Ports Authorities, Authorities in charge of Road, Rail and Pipeline infrastructure development and management, Private Players Associations and Business Representatives.



List of Abbreviations and Acronyms

ASYCUDA	Automated System for Customs Data
BI	Burundi
CPI	Corridor Performance Indicators
CSC	Container Service Charge
DGDA	Direction Générale Des Douanes Et Accises
DOF	Delivery Order Fee
DPC	Document Processing Center
DRC	Democratic Republic of Congo
DWT	Dead Weight Tonne
ECTS	Electronic Cargo Tracking System
FEAFA	Federation of East African Freight Forwarders Association
FERI	Fiche Electronique De Renseignement A L'importation
GPS	Global Positioning System
GPS	Global Positioning Systems
IABT	International Association of Burundi Transporters
ICD	Inland Container Depot
ICT	Information Communication Technology
IPUO	Import Pick Up Order
IRI	International Roughness Index
KE	Kenya
KeNHA	Kenya National Highway Authority
KM	Kilometre
KPA	Kenya Ports Authority
KPC	Kenya Pipeline Authority
KRA	Kenya Revenue Authority
KRB	Kenya Roads Board
KTA	Kenya Transporters Association
KTA	Kenya Transporters Association
KWATOS	Kilindini Waterfront Automated Terminal Operations System
MAGERWA	Magasins Généraux Du Rwanda
NC	Northern Corridor
NCTA	Northern Corridor Transport Agreement
NCTTA	Northern Corridor Transit and Transport Coordination Authority
OBR	Office Burundais des Recettes
OCC	Office Congolais de Contrôle
ODR	Office Des Routes
OdR	Office des Routes
OGEFREM	Office De Gestion Du Fret Multimodal
OSBP	One Stop Border Post
PPP	Public Private Partnership
PSF	Private Sector Federation
RRA	Rwanda Revenue Authority
RSS	Road Side Station
RTDA	Rwanda Transport Development Authority
RVR	Rift Valley Railways
RW	Rwanda
SPSS	Statistic Package for Social Sciences
SSATP	Sub-Saharan African Transport Policy Programme
THC	Terminal Handling Charges
TIMS	Transport Information Management System
TMEA	TradeMark East Africa
TO	Transport Observatory
TOP	Transport Observatory Project
UG	Uganda
UNRA	Uganda National Roads Authority
URA	Uganda Revenue Authority
URC	Uganda Railways Corporations



Introduction

Following the need to establish the causes of delays and other issues along the Northern Corridor, a pilot survey was commissioned by the Northern Corridor Transit Transport Coordination Authority (NC-TTCA) on 24th February 2013 to run for one year (up to 24th February 2014). The survey was conducted by NC-TTCA in conjunction with KTA with the aim of establishing the causes of the delays along the Northern Corridor disaggregated by nature of the cause, location, date, and time of the day. The data obtained helps in the development and formulation of policies that are research based with a view of providing guidance and recommendation for improvement of the Corridor in order to reduce the cost of doing business in the region.

In order to minimize errors and address data gaps, the GPS survey was done concurrently with the road transport survey. The road survey data was used to validate the computerized GPS data.

The objectives of the survey were;

- Collect data to enable identification of the root causes of delays for the transit traffic.
- Collect data to enable identify the location and time where the delay takes place.
- Establish the nature of any fees paid and the type of service for which the fees are paid.



GPS-Based Survey

2.1 Methodology

To fulfill the above objectives, a field supervisor was recruited with the support of Trademark East Africa (TMEA) to conduct the Survey. Two parallel surveys (The GPS) and the Road Transport Survey were engendered and administered to gather the requisite qualitative and quantitative data. The field work took place between Februarys 2013 and 4 July 2014.

The sampling frame was a list of transport companies who are KTA members and few other companies outside KTA. A total of 50 transport firms were targeted and a deliberate effort was made to ensure the sample covered all the Northern Corridor transit routes.

Convenient sampling method was to be adopted. This ensured questionnaire administration and GPS KIT issuance to only firms that were willing to cooperate and participate as there was no obligation. The survey instruments are attached in Annex 1.

Transporters were issued with GPS kit and fitted on the Truck before the journey.

Upon return, the data from the GPS kit would be retrieved. For longer distances two GPS kits would be issued to be used subsequently when the battery is discharged in order to complete a round trip.

2.2 Field Location

The image below highlight the distribution of the final logging location of the GPS kits used to collect data during the survey.

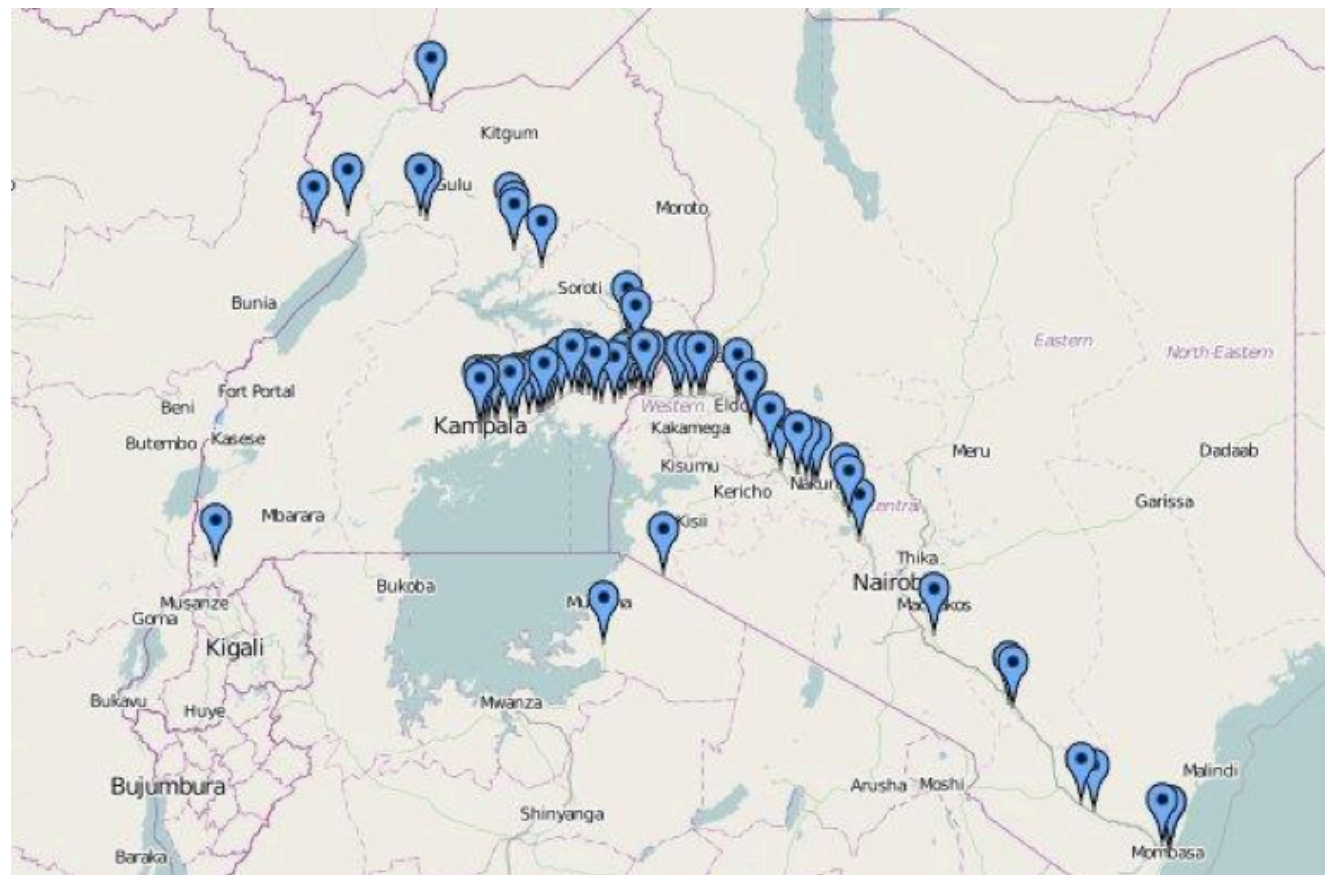


Figure 1: Field Location of Survey

The distribution above notably highlights that most of the GPS kits recorded the data upto Kampala in Uganda. Some recorded data up to South Sudan and DRC.

2.3 Data Preparation

Data values of more than 30 days and 21 days for Transit times and Port Dwell Time were identified as outliers and excluded from analysis. SPSS stem and leaf plot were used to identify outliers in other data sets.

GPS data consists of coordinates (longitudes and latitudes) and the time stamps. Initial preparations include recoding and geo zoning to map possible stop areas. The geo zoning process took into consideration the following principles:

- For Border posts – the zones are 1KM on both sides of the border and about 100 meters of both sides of the road. See example in Figure 3.
- For weigh bridges – the zones are 1KM before the Weigh Bridge and 0.5 KM after the node basing on outbound direction (for imports moving from the port to the hinterland) and about 100 meters of both sides of the road. See example in Figure 2.

Sample images below show geo-zoning boundaries to identify the queuing area in Mariakani

Weighbridge found in Kenya and Malaba Border Post for both Kenya and Uganda side.



Figure 2: Mariakani Weighbridge, Kenya



Figure 3: Malaba Border Post, Kenya/Uganda

2.4 Distribution Of GPS Devices

The table below shows the distribution of GPS devices whose data were successfully used in preparation of this report. Over 30 transport Companies participated in the survey.

DESTINATION	ENTRIES RECORDED
Uganda	53
Kenya	4
DRC	3
Rwanda	0
Burundi	1
S. Sudan	2
Others	2
Total	65

Table 1: Distribution of GPS devices, Mar – Jun 2013. Source: GPS-Based Survey

2.5 Survey Findings

Ninety (90) drivers participated in the survey. The totals of number of stops were recorded as follows :

STOP REASON	No. of stops	Percentage (%)
Personal Reasons	540	23%
Weighbridges	363	16%
Police/other security checks	344	15%
Others	299	13%
Customs checks	168	7%
Border Post Procedures	165	7%
Inland Terminal Procedures	109	5%
Vehicle Breakdowns	85	4%

Table2: Distribution of the stop Reasons, Mar – Jun 2013. Source: GPS-Based Survey

Most of the stops are due to personal reasons (about 23%) followed by weighbridges (16%) and security checks (15 %). See Annex 2 for stop areas. The average number of stops for each driver was about 10 and 16 for inbound and out bound respectively.

2.5.1 Police/Other Security Stops



Figure 4: Number of security stops, Mar – Jun 2013. Source: GPS-Based Survey

The drop in the number of security stops from the May 2013 can be attributed to the Presidential directive to remove all roadblocks in Kenya.

2.5.2 Transit time in Kenya¹

This indicator measures the time taken when the track starts the Journey until it exits the Kenyan border of Malaba.

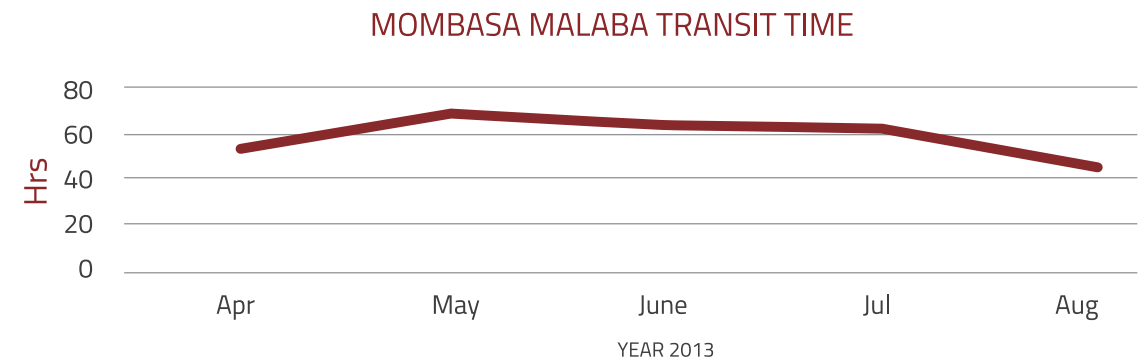


Figure 5: Transit time in Kenya, Mar – Jun 2013. Source: GPS-Based Survey

Average Transit time range from 67 hours and 44.5 hours. A significant drop of about 22 hours can be observed between the month of May and August 2013. This was possible after the removal of road blocks along the corridor to reduce transit times.

¹ Transit time captured by the GPS kit is from the time the Trucks leave their yards and not the port. This differs significantly from the transit time derived from the customs data implying that most cargo spend a lot of time in Mombasa before commencing their journey

2.5.3 Weighbridge Zone Crossing Time ¹

The average crossing time for three weighbridges zones in Kenya surveyed had the following results :

MONTH/2013	MARIAKANI	ATHIRIVER	WEBUYE
April	1.9	4.0	6.4
May	1.1	2.5	3.6
June	2.0	3.1	2.3
July	1.9	8.4	1.0
August	2.4	5.3	2.3

Table 3: Weighbridge crossing time in hours, Apr – Aug 2013. Source: GPS-Based Survey

The Average Weighbridge zone crossing time at Mariakani has been fluctuating between 1 - 2hrs for the months of April to July while August had the highest time of about 2.4hrs. For Athiriver the month of July had the highest crossing time. Athiriver weighbridge has slightly higher transit times than the other two weighbridges reported above.

2.5.4 Border Area Crossing Time

The average crossing time for three border post zones in Kenya and Uganda surveyed had the following results :

MONTH/2013	MALABA-KENYA DWELL TIME	MALABA-UGANDA DWELL TIME
April	2.1	24.5
May	4.8	11.4
June	1.4	74.2
July	2.1	29.2

Table 4: Border crossing time in hours, Apr – Aug 2013. Source: GPS-Based Survey

The border crossing time is higher on the Uganda side of the Border post of Malaba. The dwell time in Uganda side varies between 11 hours and 74 Hours.

Possible solution is Customs pre-declaration or pre-entry, use of the single customs and regional customs Bond guarantee to cover the goods from the port of entry up to destination.

2.5.5 Challenges and the way forward

Most of the data collected so far captures mainly trip to Uganda/

Kampala. The causes of this uneven distribution are;

- (i) Battery Lifespan- The battery goes-off before the truck reaches the farthest destinations like Burundi, Rwanda, DRC and South Sudan. For this reason, most batteries go off as the truck is still within Uganda on the way to those destinations (Rwanda, Burundi, DRC and South Sudan). This causes them to capture data only from Kenya to Uganda
- (ii) No data collected so far for the return trip with the GPS data. The reason is with the life-span of the Battery fixed to GPS device, because of many delays along the corridor. The life-span of the GPS is usually 14-16 days, but we find the truck spent more than these numbers of days before making a return trip. This makes the GPS to go off hence no data capture for the complete return trip.
- (iii) There are also some cases where the drivers fail to switch on the kits or fail to switch them on in time. To solve this problem, issuance of 2 GPS devices for every trip of a truck. One GPS kit is put on when the truck is starting the journey and the other switched on when the first one goes off.

Analysis From Electronic Data Sources

The Transport Observatory currently consolidates data from various sources including Road/GPS surveys, Electronic data from Stakeholders and Specialized Surveys like Border Audits. From these data, 25 performance indicators are generated covering Volume, Efficiency and Productivity, Rates and Cost, Transit time and Delays.

With the recent Presidential directive, in Kenya, to reduce on the transit time in Kenya, various measures are being taken to see this enforced. The Northern Corridor Transit and Transport Coordination Authority (NC-TTCA) has been tasked to monitor and report on the improvement of the corridor performance.

From the list of currently tracked performance indicators, some can be used for immediate monitoring of the corridor performance especially to facilitate effective reporting on the progress made as a result of change in the way transit operations and businesses are run.

This chapter highlights some of the indicators for efficiency in monitoring the corridor especially on the Kenya routes in order to correctly diagnose bottlenecks and checkpoints that hinder smooth flow of cargo along the Northern Corridor.

Out of the 25 Corridor Performance Indicators currently being tracked by the Secretariat, Six (6) indicators have been identified for the weekly Corridor performance monitoring. The report for the rest of the indicators is done on quarterly basis. These indicators fall under broad categories of Volume and Capacity, Efficiency and Productivity, Transit Times & Delays and Rates and Costs.

3.1 Transit Times & Delays

3.1.1 Port Dwell Time

This measures on average how long containers take from the time they are offloaded to the time they exit the Mombasa Port.

During this time, there is unloading of the vessel and transferring containers to the storage yard, Waiting in the container yard and processing to remove the container out of the port. Shippers, who represent the automotive industry, consider 3 days already as excessive dwell time. However, some small shippers would tend to consider “normal” cargo dwell time around 4-5 days.

The Kenya Maritime authority has considered to target a dwell time of 4 days for the port of Mombasa in their recent Maritime Industry Standards. This target has been achieved based on the recent statistics. Based on the trend a target of 3 days for the port of Mombasa can be realized. It is important to recall² that each additional day that a product is delayed prior to being shipped reduces trade by at least 1 percent.

² Djankov, Simeon, Caroline Freund, and Cong Pham. 2006. “Trading on Time.” Policy Research Working Paper 3909

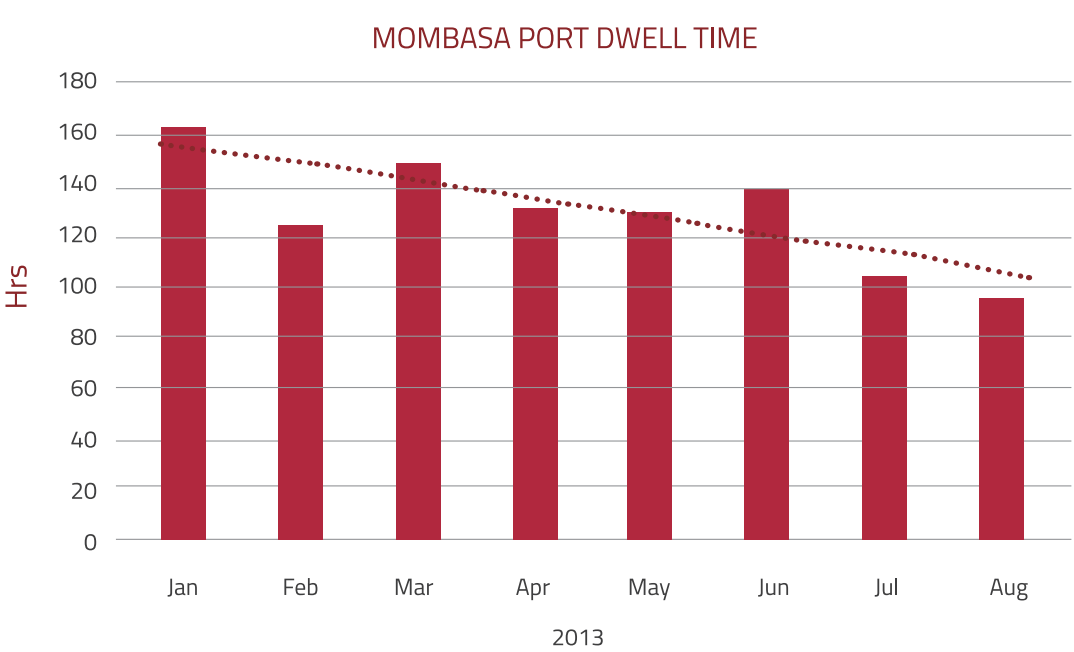


Figure 6: Port Dwell Time, Jan – Aug 2013. Source: KPA

Port dwell³ time has been reducing steadily over time with the month of August registering the lowest this year at 86.12 hours (3.6 days).

Long duration of container stays in the port coupled with the unpredictability of cargo dwell times causes the shippers to compensate for the uncertainty by raising their inventory levels hence an increase to trade costs.

The monthly standard deviation of the Mombasa Port Dwell Time falls between 4 and 5 days. This exhibits very high variance in the data spread hence unpredictability of cargo dwell time.

The impact of unpredictability on logistics costs is an estimated 25–30 percent ⁴ of the factory price.

³ The port dwell time is the average of cargo types including the transit and local cargo. Since local cargo goes to container freight stations, disaggregation of the port along these two lines is necessary. Data used in this analysis was not disaggregated.

⁴ Arvis, Jean-François, Gaël Raballad and, and Jean-FrançoisMarteau.2010. **The Cost of Being Landlocked: Logistics Costs and Supply Chain Reliability**

3.1.2 Time for Customs Clearance at the Document Processing Centre (DPC)

The clearance at DPC is the process when Entries are passed by KRA. This indicator provides time that forms part of the Port dwell time. (See annex 3 for indicator definitions).

This would be indicative of the delays related to Customs processes that are centralized at the KRA's DPC at the headquarters. This process is highly dependent on the uptime of the SIMBA system; therefore, it could be a possible indicator of systems downtime before the elaborate clearing process at Mombasa's One stop Centre commences.

The figure below shows the Clearance Time at One Stop Centre (Mombasa) and Time for Customs Clearance at DPC.

Average time at DPC was between 1.5 and 2 hours for the entire period whereas the average time for customs clearance at one stop center was about 80 hours (3.3 days) from June to August, 2013.

There is however higher variance in the average processing time at One Stop Centre with the data showing a median of 67 hours and a standard deviation of 66.2 hours (2.8) days.



Figure 7: Document processing Centre & One Stop Centre, Feb – Aug 2013. Source: KRA

3.1.3 Delay at Mombasa port after Release by Customs

This forms part of the transactional⁵ dwell time. It measures the time taken by Importers to have their cargo evacuated after authorization by the Customs.

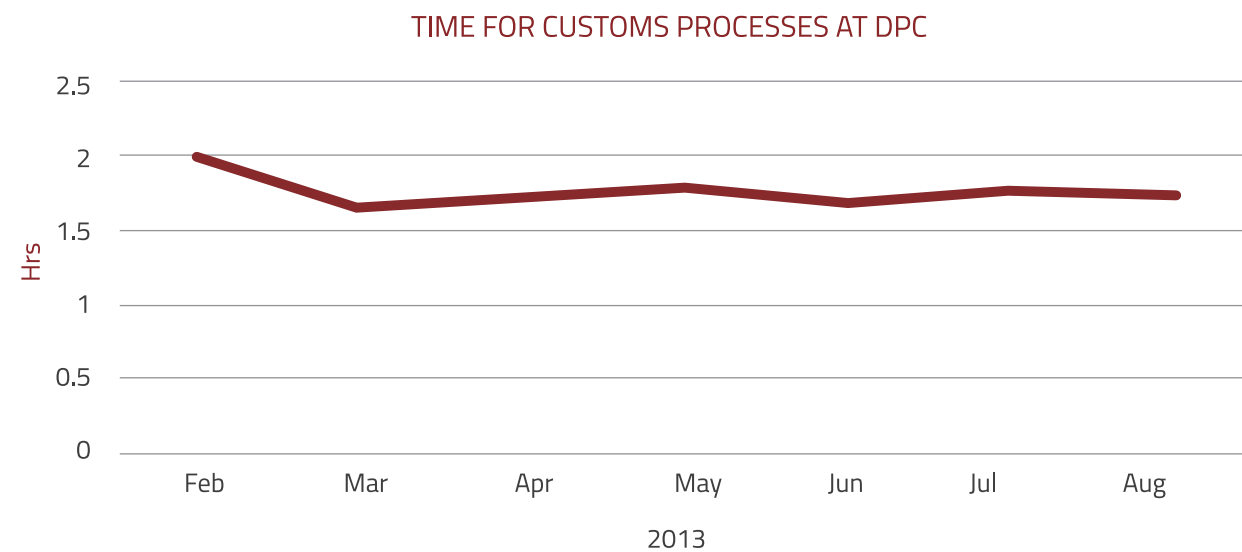


Figure 8: Delay at the port after release by Customs, Feb – Aug 2013. Source: KRA

Higher peak of 48 hours for the Delay at Mombasa port after release by Customs in the month of March 2013 corresponds to the General elections period in Kenya.

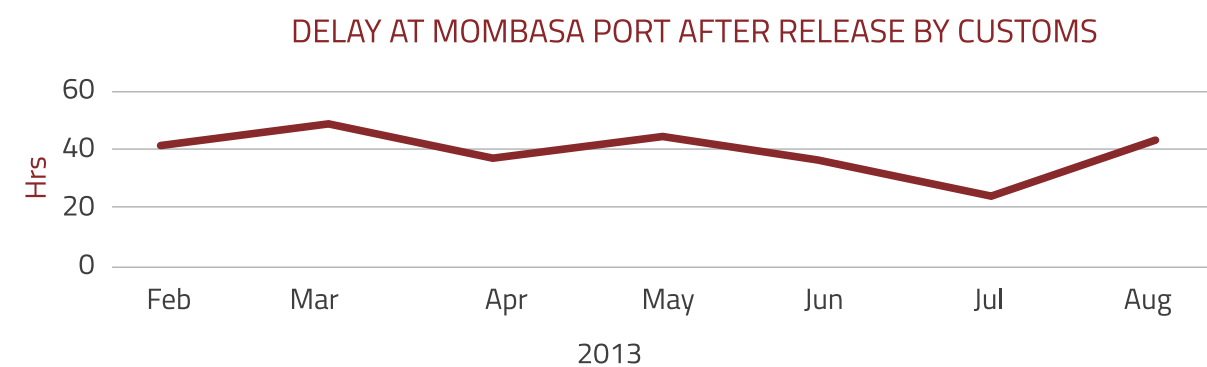


Figure 8: Delay at the port after release by Customs, Feb – Aug 2013. Source: KRA

⁵ Transactional dwell time refers to the performance of clearance formalities

4.1.4 Transit Time in Kenya

This can effectively measure transit time from the time cargo is removed from the Port of Mombasa to the time the export certificate after crossing the border (Malaba or Busia).

This is a critical indicator for measuring the performance of the Corridor in totality from the time the cargo leaves the Port. This means all delays resulting from inefficiencies along the corridor will be reflected.

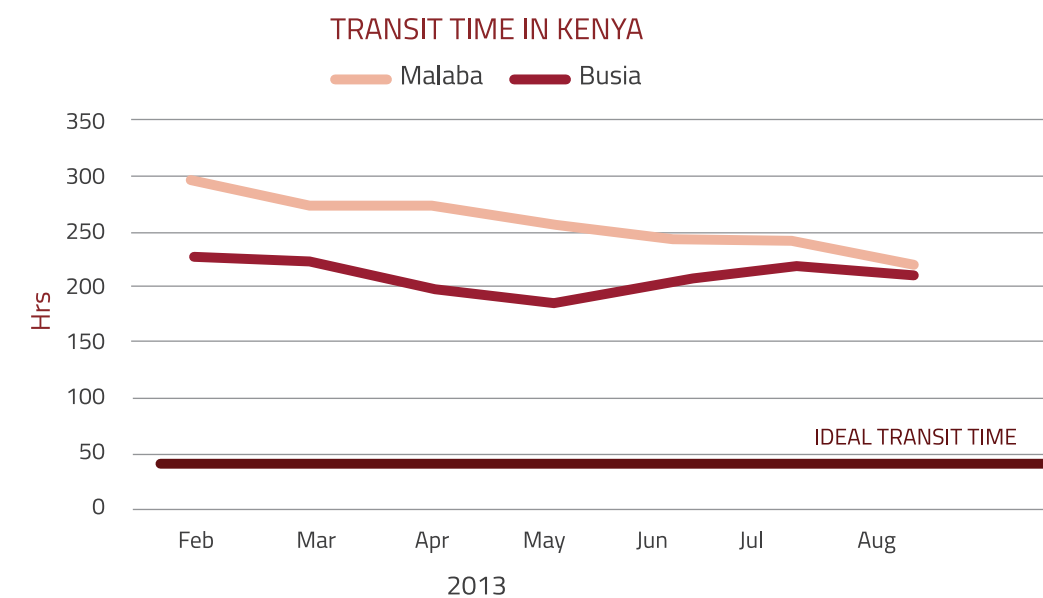


Figure 9: Transit time in Kenya, Feb – Aug 2013. Source: KRA

The figure above shows higher transit times than the expected 2 days, however, the general trend shows a reduction in the transit time. Busia has lower transit times than Malaba but only about 5 % of transit traffic goes through Busia Border post. The figure below illustrates the Percentile distribution of Average transit time in Kenya. From the data, it was also observed that only 25 % of the cargo transits through Kenya in less than 5 days.

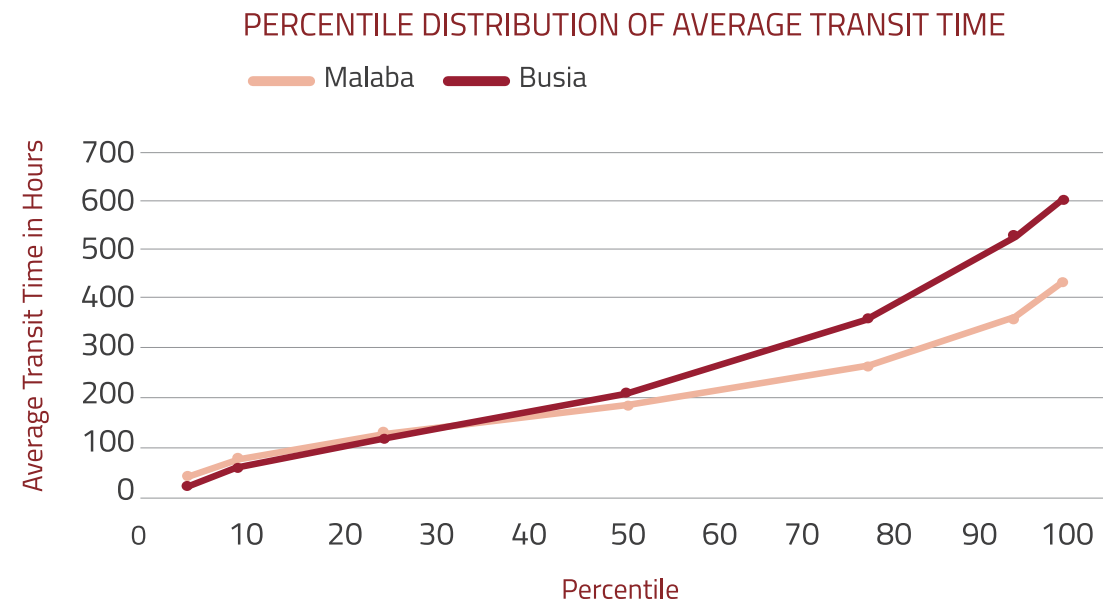


Figure 10: Percentile distribution of Average transit time in Kenya, Feb – Aug 2013. Source: KRA

Results from the weekly statistics (which only takes consignments that have successfully transited through Kenya within a period of a week) also corroborates this fact.

The figure below illustrates results Transit time in Kenya from the weekly report.⁶

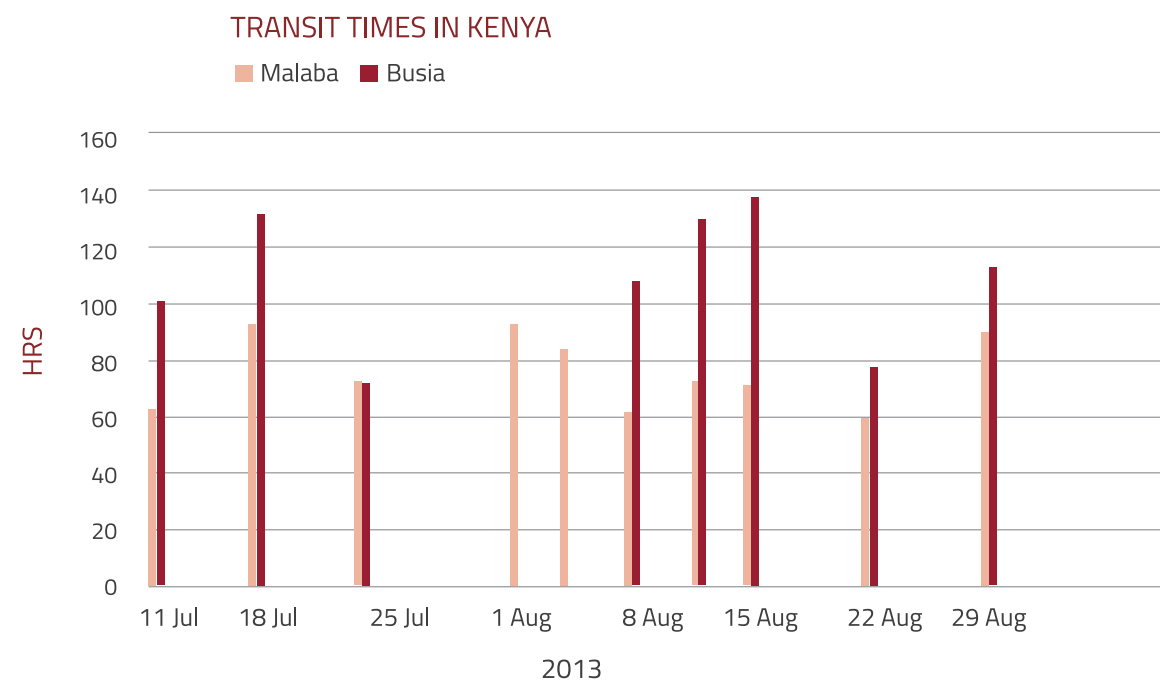


Figure 11: Transit time in Kenya, Feb – Aug 2013. Source: KRA

⁶ Effective monitoring of the transit time in Kenya can be clearly captured on a monthly basis, however the weekly time can be compared against the number of consignment that have successfully exited the country within a week.

The total indirect (hidden) costs per day of delays are estimated at \$384.4⁷ for a loaded truck. Therefore, reducing the transit time from the current 8.7 days to 2 days may translates to a total saving of about \$2575 (that is the difference in days which is about 6.7 days multiplied by \$384.4) per truck per day. In case such a trend can be sustained then operation costs, especially transporters, would go down and may result to reduction of tariff.

4.1.5 Transit time in Rwanda

Transit time in Rwanda from Gatuna to Akanyaru Haut (Border with Burundi) is as shown below:

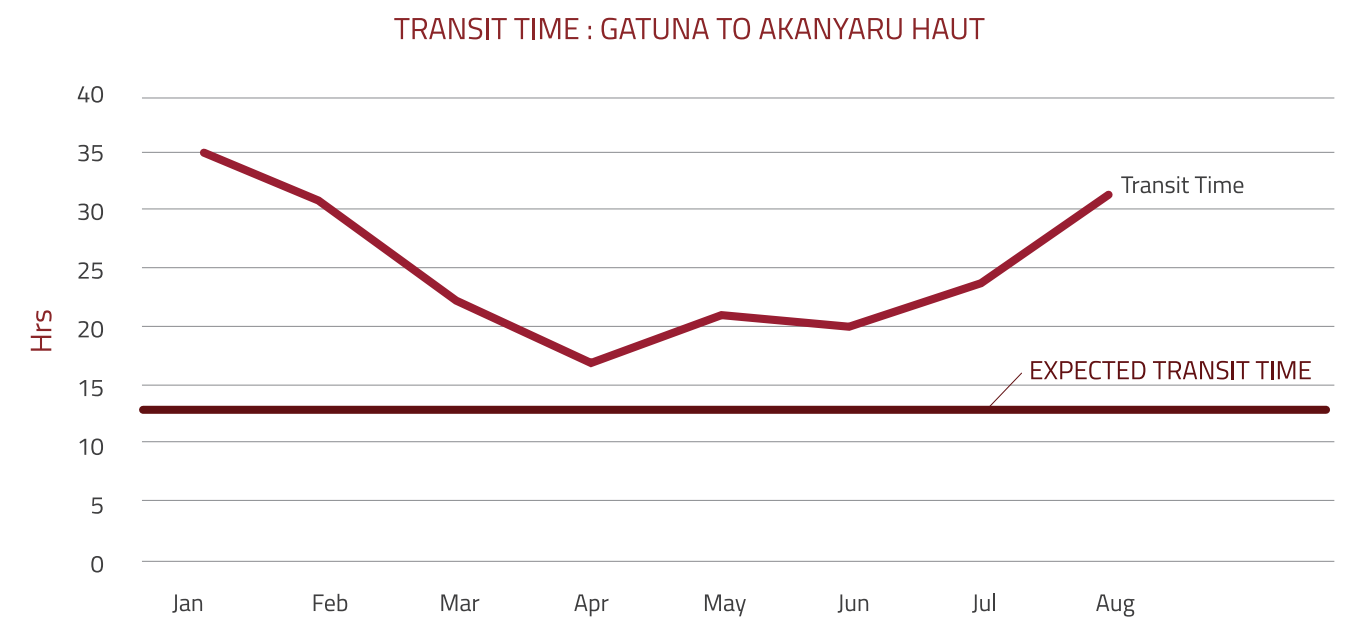


Figure 12: Transit time in Rwanda, Jan – Aug 2013. Source: RRA

The figure above shows transit time in Rwanda increasing from the month of April, 2013.

⁷ NCTTCA- CPS Analytical Comparative Transport cost study Along the Northern Corridor Region, 2010.

3.2 Volume and Capacity

3.2.1 Mombasa Port Throughput

The Chart below highlight the total throughput of the port of Mombasa vs the transit destined to member states (in DWT):

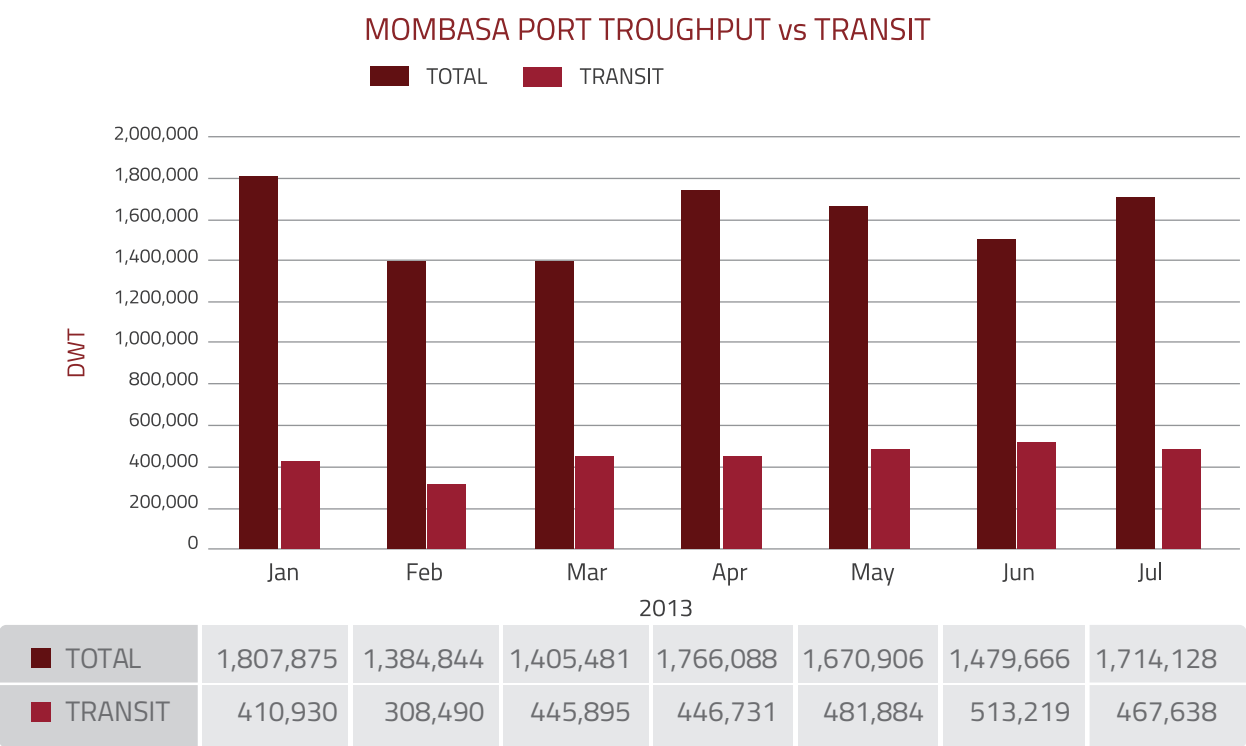


Figure 13: Mombasa Port Throughput vs Transit to Member States, Jan – Jul 2013. Source: KPA

The volumes of cargo entering the region during the period January to July fluctuated between 1.3 to 1.8 million tones with the months of February and March the least volumes. The drop in volumes in these two months can be attributed to the general election period in Kenya.

The figure 14 below illustrates the transit volumes destined to member states vs transit containerized destined to member states (in DWT):

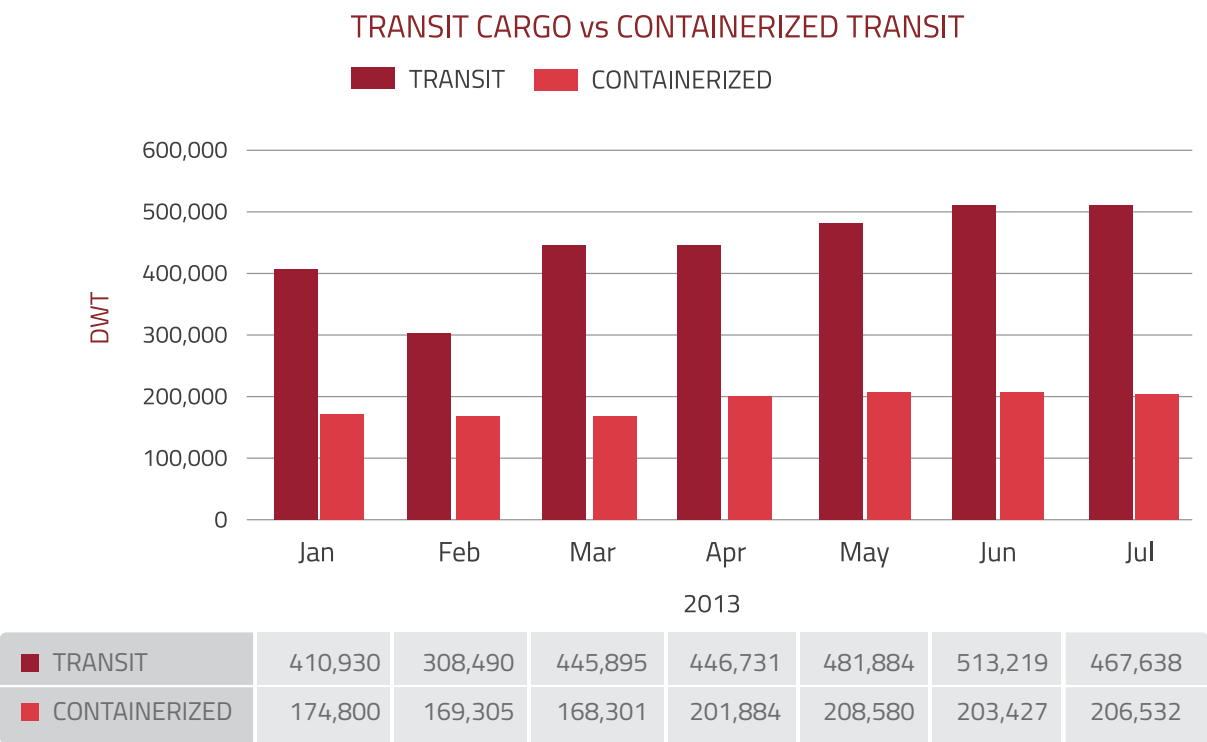


Figure 14: Transit to Member States vs Containerized Transit destined to Member , Jan – Jul 2013. Source: KPA

When container movements are speeded up, higher throughput is possible even without making investments in storage infrastructure. This means more cargo will be handles per unit time especially when the cargo is efficiently and swiftly evacuated from the port

4.2.2 Imports to Member States and Others

Comparison of Volume of Imports to Northern Corridor Member States (January-July) 2012 and 2013 (in DWT).

Figure 15 below shows the share of imports through the port of Mombasa (in DWT

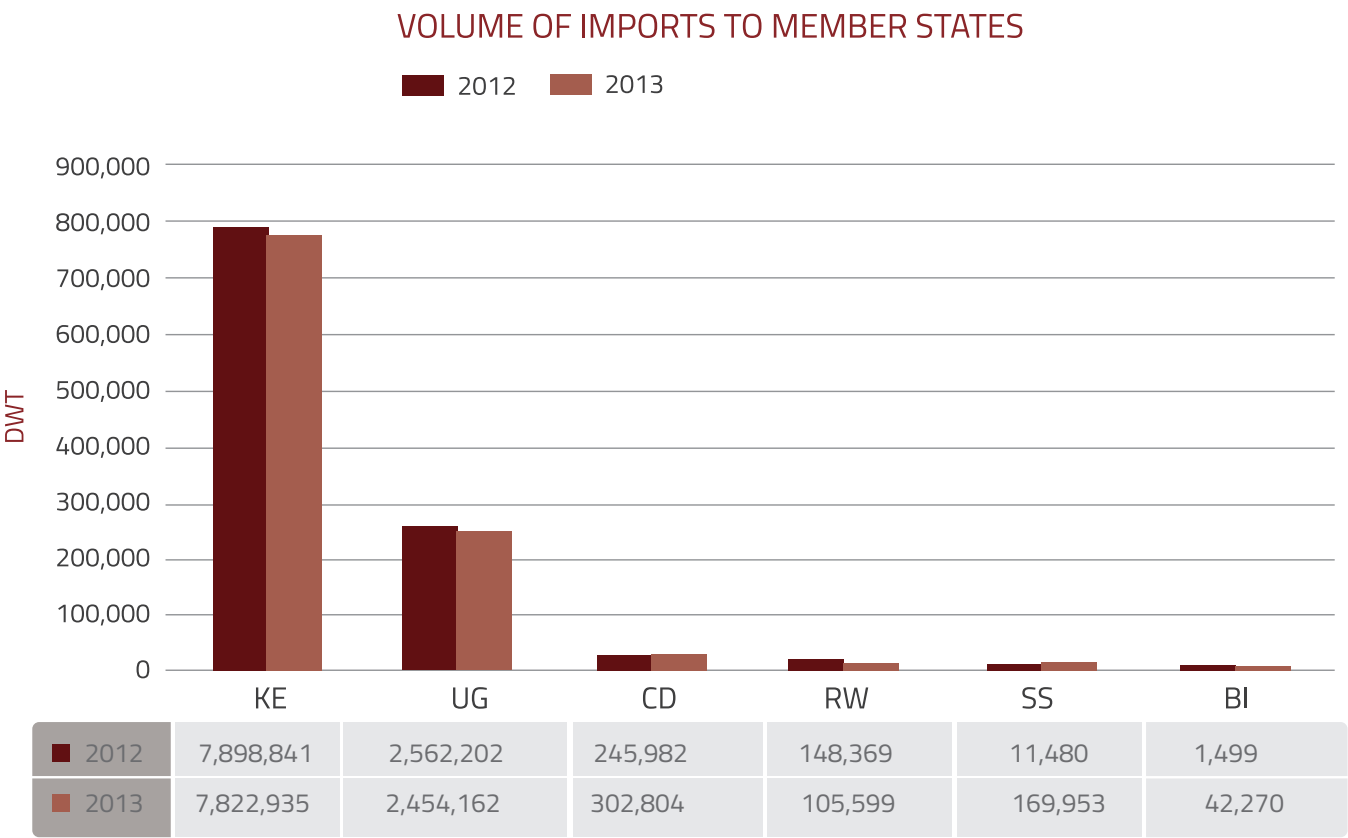


Figure 15 : Comparison of Volumes, Jan – Jul in 2012 and 2013. Source: KPA

IMPORTS THROUGH MOMBASA PORT

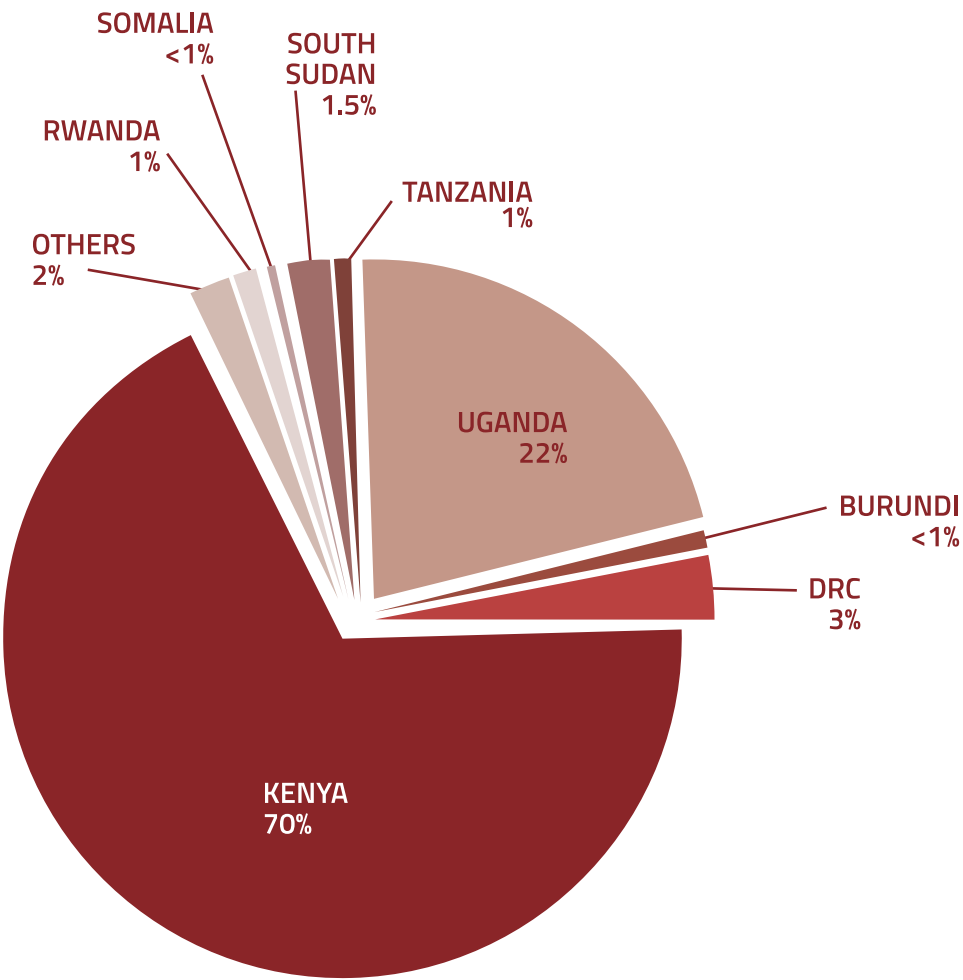


Figure 16 : Imports through Mombasa Port, Jan – Jul 2013. Source: KPA

Figure 15 and 16 above show the percentage share of imports through Mombasa port to various destinations and the volumes to Northern Corridor Member States respectively. Imports to Kenya, Uganda and Rwanda reduced marginally from the previous year in the same period (January to July). Meanwhile, imports to DRC, South Sudan and Burundi increased compared with the same period last year.

An overall increase of about 0.27% in the volume of cargo was observed for the period.

4.2.3 Exports through the Port of Mombasa

The figure 17 below show a comparison of Volume of Exports through Mombasa Port (January-July, 2012 & 2013) (in DWT).

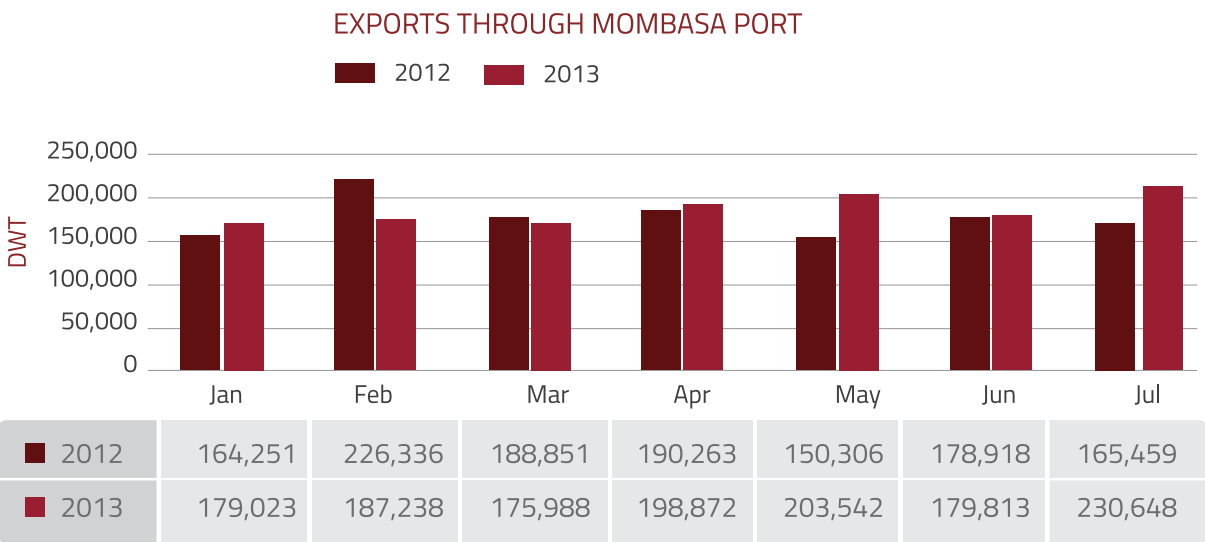


Figure 17 : Exports through Mombasa Port, Jan – Jul 2013. Source: KPA

The figure above shows the total volume of exports through the port of Mombasa for the period January to July for the years 2012 and 2013. Exports were lower in 2013 than in 2012 in the months of February and March.

An overall increase of about 7.17% in the volume of cargo was observed for the period.

Various Member States have been using the Port of Mombasa as their export gateway as shown below (in DWT):



Figure 18: Volume of Exports per country, Jan – Jul 2013. Source: KPA

Slight increase in the volumes for both Kenya and Uganda. All the Northern Corridor Member States have regular exports through the Port of Mombasa except South Sudan and Burundi who have the least and sporadic exports through the Port during the period January – July, 2013.

The high imbalance between imports and exports in the region continue to be observed. Measure to encourage and improve exports are required to improve the situation.

3.3 Productivity and Efficiency

3.3.1 Weigh Bridge Indicators (Based on Weekly Statistics)

The secretariat compiles weekly statistics covering various indicators including the ones on the weigh bridges. This section of weigh bridge traffic and compliance looks at the weekly data produced during for selected weeks of August and September.

4.3.1.1 Weighbridge Traffic against time

This indicator shows the traffic passing through Mariakani and Gilgil weighbridges per day.

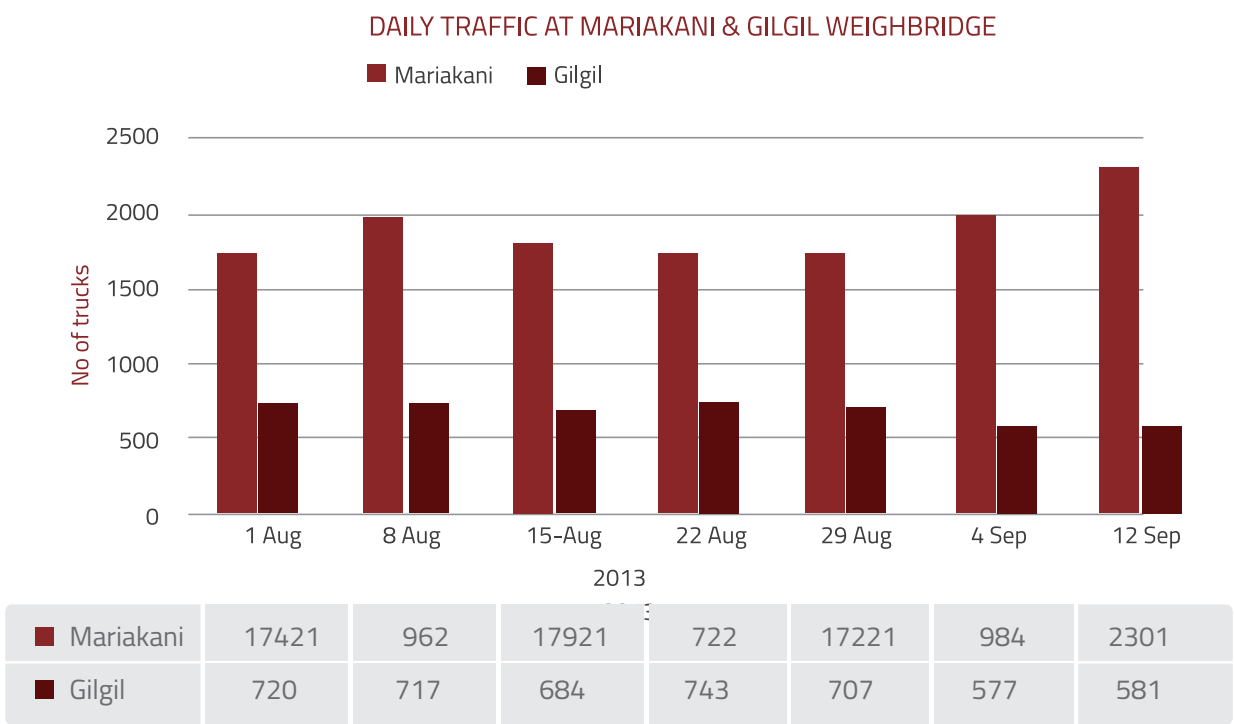


Figure 19: Traffic weighed Mariakani and Gilgil per day, Aug and Sep 2013. Source: KeNHA

Over the weeks traffic weighed has been increasing along the corridor. Mariakani has higher traffic since all trucks have to be weighed at this first weighbridge (Mariakani) located about 50km from Mombasa Port.

4.3.1.2 Weight compliance ⁸

This indicator will look at all traffic passing through the weighbridge and how they comply with axle load limits.

The figure below shows weighbridge compliance levels at Mariakani and Gilgil weighbridges.

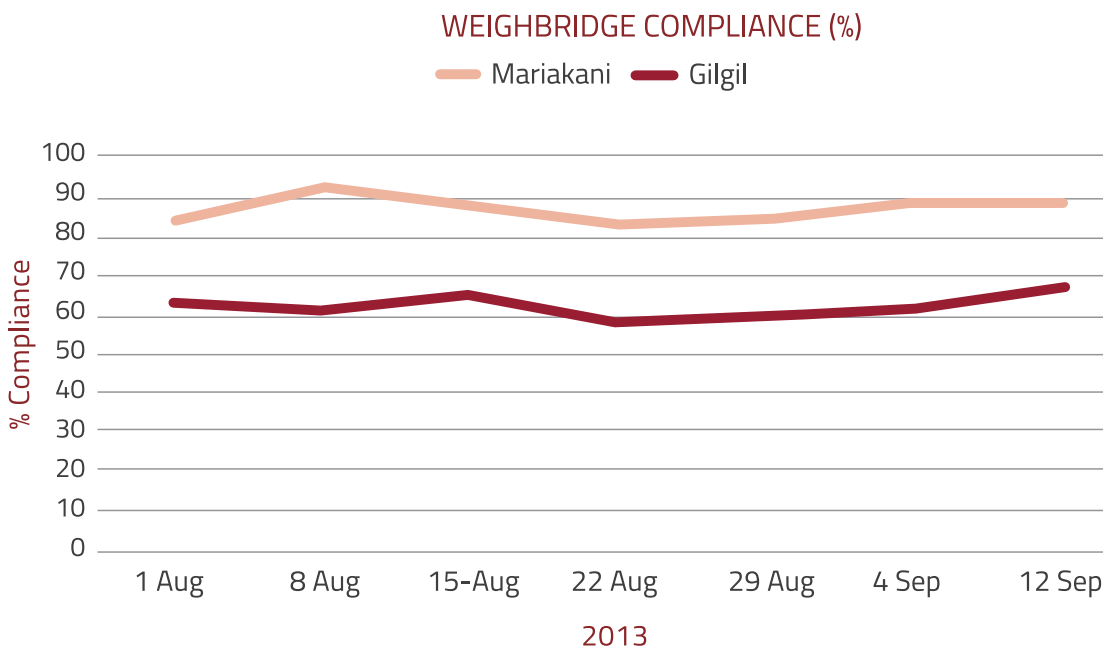


Figure 20: Weighbridge compliance levels, Aug and Sep 2013. Source: KeNHA

Compliance levels at Mariakani and Gilgil are above 57%. Higher compliance levels could be realized if traders are sensitized. Subsequent weighbridges i.e. Athiriver, Webuye and Busia have higher compliance levels.

⁸ Webuye, Athiriver and Busia weighbridges have recorded higher compliance levels ranging between 95%-100% during the period July-September, 2013.

4.3.2 Infrastructure Quality

Table 5, 6, 7 and 8 shows the quality of Northern Corridor roads sections in Uganda, Rwanda, Burundi and DRC respectively.

About 42% of the reported transit routes in Uganda were in good condition. Rwanda has the highest percentage of the roads in good condition.

4.3.2.1 Road Status in Uganda

IRI	2-4 (GOOD)	4—6 (FAIR)	> 6 (POOR)
Length(KM)	664	535	383
Percentage (%)	42%	33.8%	24.2%

Table 5: Road Status in Uganda, 2012. Source: UNRA

4.3.2.2 Road Status in Rwanda

ROAD SECTION	LENGTH(KM)	GOOD	FAIR	POOR
Kicukiro-Nyamata-Nemba	60.253	99.86%	0.24%	
Kigali-Butare-Akanyaru	157.27	99.75%	0.35%	
Butare-Cyangugu	151.25	98.6%	0.66%	0.8 %
Kigali-Kayonza-Rusumo	149.34	99.2%	0.8%	
Kayonza-Kagitumba	116.24	86.23%	13.24%	0.51%

Table 6: Road Status in Rwanda, 2012. Source: RTDA

4.3.2.3 Road Status in Burundi

ROUTE SECTION	LENGTH(KM)	GOOD	FAIR	POOR
Bujumbura-Bugarama-Kayanza-Kanyaru Haut	115	100%		
Bujumbura-Gatumba- Frontière RDC	19	21%	79%	
Bujumbura-Nyamitanga-Ruhwa	80	63%	37%	
Kayanza-Ngozi-Gashoho	72	100%		
Gashoho-Kirundo-Gasenyi	67	51%	49%	

Table 7 : Road Status in Burundi, 2012. Source: OdR

4.3.2.4 Road Status in Democratic Republic of Congo

ROUTE SECTION	LENGTH(KM)	GOOD	FAIR	POOR
Bukavu-Kindu-Kisangani	60.253	99.86%	0.24%	
Bukavu- Uvira	157.27	99.75%	0.35%	
Kisangani - Beni -Kasindi	151.25	98.6%	0.66%	0.8 %
Komanda - Bunia - Mahagi	149.34	99.2%	0.8%	
Kisangani - Isiro - Faradje - Aba	116.24	86.23%	13.24%	0.51%
Beni - Butembo - Goma	421	42.5%	57.5% -	

Table 8: Road Status in DRC, 2012. Source: OdR



Utilization Of The Online Portal

The Transport Observatory online database portal has had over 6000 visits for the period January to August 2013 based on the Google analytics setup for the website. Out of these visitors, about 63% are new users while the rest are returning.

Figure 21 below highlights the visits of the ports :

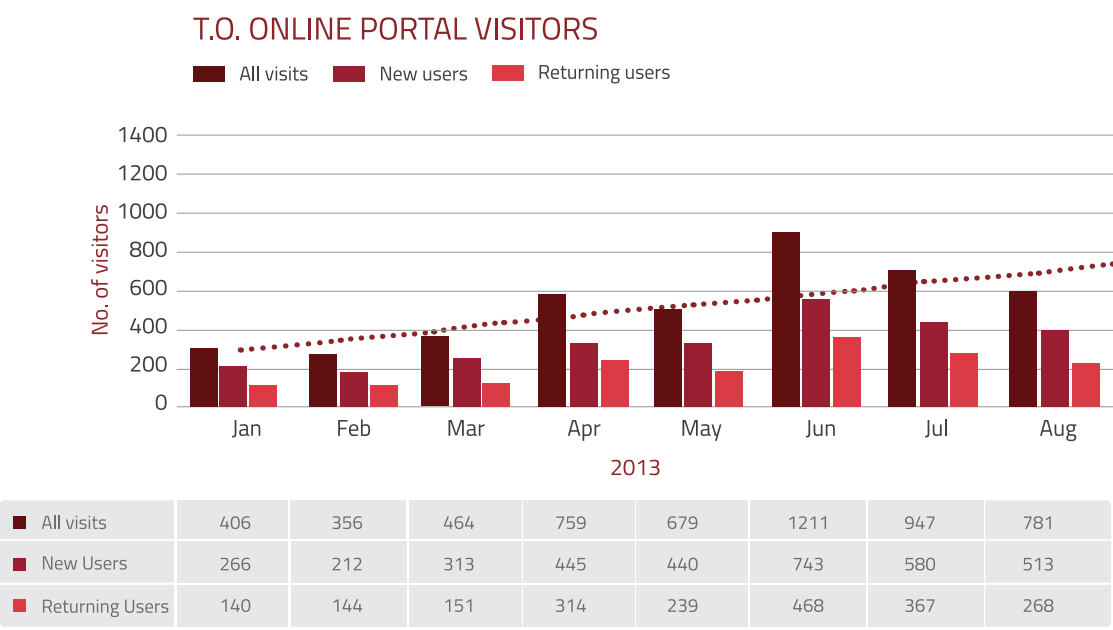


Figure 21: TO online portal visitors, Jan - Aug 2013. Source: Google Analytics

The overall trend over the period indicate an increase in the number of visitors accessing the online portal for information.

Data Sources & Challenges

From the above identified indicators, it is evident that there are multiple sources of data. However, data provision has not been consistent among all Stakeholders. Initially, the Secretariat's understanding with the various Stakeholders was that they provide data on monthly basis while we report on quarterly basis primarily because most of the indicators would provide visible shifts after a longer period.

Currently there are increasing demands to release reports on shorter frequencies; on weekly basis. To achieve this, Stakeholders providing electronic data need to provide the data as required by the NC-TTCA Secretariat at least once a week to be able to effectively report in short frequencies.

Reporting Mechanism

Every two weeks, the Secretariat produces a monitoring highlight and bulleting to the Ministries responsible for transport in the Member States.

The Secretariat will also share on a weekly basis the performance of the Corridor during the Port Community meeting as part of dissemination mechanism to ensure that stakeholders are timely briefed.

Quarterly reports are also produced, and disseminated to stakeholders. Both the quarterly and weekly reports are available on the transport observatory website (www.top.ttcanc.org).

The reports will identify areas of concern based on the performance indicators to help stakeholders come up with possible measures to address observed areas of concerns.

Areas where improvement is registered will be highlighted in order to inform the stakeholders that they are on the right track and to ensure that the joint effort is appreciated and further improvement encouraged.

Recommendations

For the sustainability of this Corridor monitoring tool, its reliability and improvement of the corridor as a whole it is important that:

1. Stakeholders should provide the raw data as required by the Secretariat at least once a week and on a monthly basis as agreed to enhance efficiency and consistency in reporting.
2. Automation of data transfer is embraced by stakeholders to ensure delays and other related challenges are reduced.
3. Stakeholders discuss the Secretariat's reports and develop action points.
4. Sensitization of transporters on GPS survey and identify other possible sources of GPS data.
5. All stakeholder and especially those involved in the movement of cargo along the corridor to take up sensitization campaigns on axle load compliance.

Annexes



ANNEX 1: Survey Instruments



THE PERMANENT SECRETARIAT OF THE TRANSIT AND TRANSPORT COORDINATION
AUTHORITY OF THE NORTHERN CORRIDOR

GPS BASED ROAD SURVEY
DATA COLLECTION FORM
(OUTBOUND/INBOUND)

COMPANY ISSUED TO: _____

CODE: _____

DATE ISSUED: _____

DEPARTURE DATE: _____ TIME: _____

ARRIVAL DATE: _____ TIME: _____

SIGNATURE: _____

WHAT IS THE NCTTCA?

The Northern Corridor comprises of the transport infrastructure, facilities and services in East and Central Africa linked to the Maritime Port of Mombasa. These primary transport network and facilities link the Port of Mombasa in Kenya to the Great Lakes countries of Uganda, Rwanda, Burundi and the Democratic Republic of Congo.

The five countries are signatories to the Northern Corridor Transit Agreement (NCTA), whose main objective is to enhance and ensure seamless movement of trade and traffic across the region.

The Transit Transport Coordination Authority of the Northern Corridor (NCTTCA), whose Secretariat is based in Mombasa, Kenya, was established to oversee the implementation of the NCTA provisions and to safeguard the interests of the Member States and corridor users. The programmes and activities of the NCTTCA includes encouraging cost effective services by the major transport service providers through private investments, monitoring inefficiencies along the Northern Corridor and providing policy guidelines to improve the same, provide an efficient mechanism for exchanging information and monitoring the performance of the corridor as well as monitoring regional transport and trade Implementation Projects.

ABOUT THE TRANSPORT OBSERVATORY PROJECT

The NCTTCA Transport Observatory seeks to establish a practical method of monitoring transit traffic by using existing computerized data and by undertaking surveys of this kind from time to time to validate the findings and the indicators yielded from the computerized data.

The scope of work includes identifying total time delays from all causes and time delays disaggregated by cause, location, date, and time of day, to define parameters and reports to capture direction of travel, "nationality" of vehicle, and type of cargo and to setup a database for analysing and disseminating this information.

WHAT ARE THE OBJECTIVES OF THE ROAD SURVEY?

The objective is to collect enough data and information to identify the root causes of delays for transit traffic on the Northern Corridor and also to understand the associated costs. This will enable the NCTTCA to develop indicators to monitor the performance of the Corridor and to analyze the effects of the implementation of various policies of the NCTTCA Member States with a view of providing guidance and recommendation for improvement of the same.

INSTRUCTIONS

COVERAGE OF THIS SURVEY

This survey is to be completed to cover the entire round trip (going and coming) while the vehicle and goods are travelling on the Northern Corridor. The intention is to collect enough data on the round-trip with regards to each and every stop that the vehicle makes with the aim of analyzing this information to generate statistics on the main reasons that cause delays on the transit Corridor.

PERSON RESPONSIBLE FOR FILLING OUT THE FORM

The Survey Form is to be filled by the driver and or turn-boy of the vehicle under instructions from the Transport Manager of the organization or a Senior Manager in the organization (Focal Point).

Parts I (Driver Details), II (Vehicle Details), III (Cargo Loading Details), IV (Departure and Arrival Details) and V (Cargo Details) will be completed at commencement of the journey while the stoppage information in the remaining sections will be completed en-route to and coming back from the destination as per the instructions above (Person Responsible for filling in the Survey Form).

Once completed, the forms should be returned to the office of the focal point for collection by the NCTTCA as will be arranged.

SURVEY METHODOLOGY

The Survey will be undertaken by the methodical noting of all reasons for stoppage, times and dates of the stop, times and dates of the resuming of the journey after the stop, where the stop occurred and including any costs incurred during the stop.

FILLING OUT OF THE FORM

The Survey form must be completed legibly using uppercase capital letters if possible. Appropriate care should be taken to note down the route section codes and the stop reason delay codes where applicable. Where the data is captured by ticking a box, the other boxes must be left clear so as to leave no doubt as to the option being indicated for the answer.

If the survey question is confusing, kindly look at the section marked definitions (inner back cover page of this booklet) for the exact definition of what that particular response entails and what is expected in that regard.

I. DRIVER DETAILS

1. Driver's Details. Age.....

II. VEHICLE DETAILS

1. Vehicle Registration Number (Prime Mover)

2. Vehicle Registration Number (Trailer(s) Head)

III. CARGO LOADING DETAILS

1. Loading Permit Received on Date (dd/mm/yyyy) Time(hh:mm).....

2. Loading Date (dd/mm/yyyy)Time(hh:mm).....

IV. DEPARTURE AND ARRIVAL DETAILS

1. Loading Permit Received on Date (dd/mm/yyyy) Time(hh:mm).....

2. Loading Date (dd/mm/yyyy)Time(hh:mm).....

3. Departure Date (dd/mm/yyyy) Time(hh:mm).....

4. Arrived at Destination Date (dd/mm/yyyy) Time(hh:mm).....

(Filled on arrival at cargo destination at delivery)

V. CARGO DETAILS

1. Cargo Form (tick one below)

☐ Container

☐ Loose Cargo

☐ Tanker

2. Weight of goods carried.

3. Container Numbers.

4. Kind of goods carried (please tick appropriate ones from the table below):

☐ Tea

☐ Coffee

☐ Hides and Skins

☐ Tobacco Leaf

☐ Beans and other Legumes

☐ Fish

☐ Sesame

☐ Cocoa

☐ Pepper

☐ Vanilla

☐ Fruits

☐ Live animals

☐ Ground/Cashew Nuts

☐ Timber

☐ Minerals

☐ Cotton

☐ Grains (Maize, Rice, Wheat, etc.)

☐ Sugar

☐ Tyres & Tubes

☐ Vehicle Spares

☐ Electronics

☐ Cigarettes

☐ Used Clothes

☐ Cooking Oil

☐ Cosmetics

☐ Building materials

☐ Machinery

☐ Motor Vehicles

☐ Footwear

☐ Flour

☐ Pulp and Paper

☐ Books and other printed materials

☐ Iron and Steel

☐ Medical and Pharmaceutical products

☐ Petroleum Products and related materials

☐ Dry Cells

☐ Foodstuff and Beverages

☐ Utensils

☐ Fabrics and Garments

☐ Personal and Household Items

☐ Safety Matches

☐ Others

VI. OUTBOUND

STOP NO.	DATE (dd/mm/yyyy)	STOP LOCATION	STOP DETAILS	FEES/ PAYMENTS MADE	
		Name of place, Country	Stop reason code	Fee Amount	Service Fees Paid for Code
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

STOP REASON CODES		SERVICE FEES PAID FOR CODES	
D01	Police/other security checks	S01	Police Fees / Fine
D02	Customs checks	S02	Customs charges
D03	Weighbridges	S03	Weighbridge charges
D04	Escorts	S04	Port charges
D05	Port Procedures	S05	Border charges
D06	Border Post Procedures	S06	Repair charges
D07	Insecurity	S07	Personal charges
D08	Personal Reasons	S08	Vehicle Breakdowns
D09	Vehicle Breakdowns	S09	Other charges
D10	Inland Terminal Procedures		
D11	Others		

V. INBOUND (RETURN JOURNEY)

STOP NO.	DATE (dd/mm/yyyy)	STOP LOCATION	STOP DETAILS	FEES/ PAYMENTS MADE	
		Name of place, Country	Stop reason code	Fee Amount	Service Fees Paid for Code
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

STOP REASON CODES	
D01	Police/other security checks
D02	Customs checks
D03	Weighbridges
D04	Escorts
D05	Port Procedures
D06	Border Post Procedures
D07	Insecurity
D08	Personal Reasons
D09	Vehicle Breakdowns
D10	Inland Terminal Procedures
D11	Others

SERVICE FEES PAID FOR CODES	
S01	Police Fees / Fine
S02	Customs charges
S03	Weighbridge charges
S04	Port charges
S05	Border charges
S06	Repair charges
S07	Personal charges
S08	Vehicle Breakdowns
S09	Other charges

ANNEX 2 : Stop Areas

COUNTRY	NAME OF PLACE	CASES OF STOPS
KENYA	MARIAKANI	127
KENYA	MALABA	109
KENYA	GILGIL	106
UGANDA	MALABA	87
KENYA	WEBUYE	84
KENYA	MTITO ANDEI	77
KENYA	SALGAA	63
UGANDA	KAMPALA	61
KENYA	MLOLONGO	59
KENYA	MAUNGU	55
UGANDA	BUSTEMA	52
KENYA	MOMBASA	51
KENYA	MAKINDU	51
KENYA	JUA KALI	37
KENYA	MAI MAHIU	36
KENYA	EMALI	34
KENYA	TARU	33
KENYA	VOI	32
KENYA	SULTAN HAMUD	31
KENYA	ATHI RIVER	29
KENYA	NAIVASHA	27
KENYA	MACHAKOS JUNCTION	27
KENYA	BURNT FOREST	27
KENYA	NAIROBI	26
KENYA	ELDORET	25
UGANDA	JINJA	24
UGANDA	MAGAMAGA	23
KENYA	NAKURU	22
KENYA	MANYANI	20
UGANDA	TORORO	16
KENYA	BUSIA	16
UGANDA	BUSOWA	15
KENYA	MACHAKOS	15
KENYA	BUGEMBE	14
S.SUDAN	JAMES CORNER	13
KENYA	SAMBURU	13
KENYA	LONGONOT	13
KENYA	KIBOKO	13
DRC	ARU	13
S.SUDAN	NIMULE	12
RWANDA	KIGALI	12
KENYA	MASHIMBA	12
UGANDA	IDUDI	11

COUNTRY	NAME OF PLACE	CASES OF STOPS
KENYA	MAZERAS	11
KENYA	BUNGOMA	11
KENYA	TOTAL	10
KENYA	MACKINON	10
S.SUDAN	JUBA	9
KENYA	EQUATOR	9
UGANDA	LUGAZI	8
UGANDA	LIRA	8
KENYA	SALAMA	8
KENYA	NKUBU	8
KENYA	NDII	8
KENYA	MIRITINI	8
KENYA	AMAGORO	8
DRC	KABALE	8
UGANDA	SOROTI	7
UGANDA	IGANGA	7
KENYA	TIMBOROA	7
KENYA	MLASENI	7
KENYA	MELI KUBWA	7
KENYA	JUNCTION	7
UGANDA	MUKONO	6

ANNEX 3 : Generation Of Performance Indicators (KRA Data Analysis)

Computation of the performance indicators by the NC-TTCA Secretariat to generate the performance indicators along the Northern Corridor NC-TTCA uses only data for goods cleared under CPC : T812 are computed as follow :

Document Processing Center (DPC) Time = Pass Date Time – Registration Date

Transit Time In Kenya = Certificate Of Export Date Time – Release Date Time

Customs Processes At One Stop Center = Release Date Time – Release Order Date

Delay at the Port after Release = Removal Date – Release Order Date

- Registration Date : Updated when the Clearing Agent submitted the Declaration to Customs
- Lodgment Date : Updated when the customs Officer takes ownership of the allocated entry
- Date Passed: Updated when the customs officer issues a long room pass at DPC.
- Release Date: Updated when the customs officer issues a Release Order at Release Point.
- Removal Date: Updated when the customs officer issues a removal at the gate.
- Cert Export Date: Updated when the customs officer issues a Certificate at border office for export/Transit.

ANNEX 4: Geo Zones for Specific Nodes

NODE	COORDINATES FOR THE GEO-ZONES
Webuye Weighbridge	0.605786461 34.74857925
	0.603576132 34.74951905
	0.606761628 34.75765778
	0.60936385 34.75715737
	0.605786461 34.74857925
Malaba-UG	0.640773293 34.25884396
	0.637774518 34.2586046
	0.636555847 34.26744978
	0.639016451 34.26866811
	0.640773293 34.25884396
Mariakani Weighbridge	-3.836843207 39.43628061
	-3.842059668 39.44342378
	-3.839207272 39.44540939
	-3.833943258 39.43875749
	-3.830208756 39.43618798
Mbarara Weighbridge	-3.832649048 39.43312634
	-3.836843207 39.43628061
	-0.573590658 30.69384025
	-0.5684976 30.70098676
	-0.566362845 30.69985093
Mlolongo Weighbridge	-0.57218164 30.69276811
	-0.573590658 30.69384025
	-1.398165163 36.94068543
	-1.396679444 36.94287601
	-1.389880874 36.94077553
Mpondwe-BP-UG	-1.387959786 36.9393078
	-1.384866913 36.93568107
	-1.387277188 36.93347008
	-1.398165163 36.94068543
	0.04293159 29.72003571
	0.041424124 29.7206795
	0.0390774 29.72676653
	0.040634411 29.72767992
	0.044725717 29.72269194
	0.04293159 29.72003571
	3.571995275 32.07275862

NODE	COORDINATES FOR THE GEO-ZONES
Nimule-SS	3.57086865 32.07422159
	3.572202474 32.07626179
	3.579418919 32.07342795
	3.579017085 32.07214248
	3.571995275 32.07275862
Nimule-UG	3.57195014 32.07274646
	3.568721445 32.06959506
	3.562962879 32.07065651
	3.563218896 32.07283286
	3.567754415 32.07225853
Oraba Weighbridge-SS	3.570851883 32.07420565
	3.57195014 32.07274646
	3.539237487 30.88321954
	3.540244101 30.8838061
	3.54330741 30.88087053
Oraba Weighbridge-UG	3.542446158 30.87992306
	3.539237487 30.88321954
	3.540263225 30.88379265
	3.53924745 0.883263385
	3.536182323 30.88648787
Rubavu-BP-RW	3.53683718 30.88705126
	3.540263225 30.88379265
	-1.68088652 29.24454432
	-1.682388849 29.24472851
	-1.682925519 29.24906681
Busia- KE	-1.681517845 29.24927286
	-1.68088652 29.24454432
	0.460866887 34.10742748
	0.462864634 34.10843338
	0.466204408 34.10034663
Busia-UG	0.464384785 34.09869469
	0.460866887 34.10742748
	0.467195478 34.09037706
	0.46508671 34.09009887
	0.464445013 34.09865992
	0.466278667 34.10034231
	0.467195478 34.09037706

NODE	COORDINATES FOR THE GEO-ZONES
Busitema Weighbridge	0.524355577 33.96194638
	0.52229339 3.962714006
	0.523649322 33.96732025
	0.520241983 33.96774513
	0.520481718 33.96931362
	0.524296419 33.96911618
	0.525175324 33.97121608
	0.527311322 33.97066209
	0.524355577 33.96194638
Gatuna-BP-RW	-1.434424095 30.01405011
	-1.433265186 30.01677338
	-1.428825222 30.01507885
	-1.425611062 30.01464649
	-1.42313496 30.01246649
	-1.424568402 30.01192778
	-1.426515807 30.01073554
	-1.434424095 30.01405011
Gilgil Weighbridge	-0.521534208 36.32237438
	-0.531966713 36.33024228
	-0.528512017 36.33483692
	-0.516859302 36.32675738
	-0.521534208 36.32237438
Goma-BP-CD	-1.680637442 29.24020416
	-1.682170336 29.2400615
	-1.682391093 29.24471835
	-1.680904816 29.24453775
	-1.680637442 29.24020416
Kasindi-BP-CD	0.038846922 29.7166588
	0.037437672 29.71859577
	0.041373109 29.72064857
	0.042933533 29.72005162
	0.038846922 29.7166588
Katuna-BP-UG	-1.424027273 30.01233588
	-1.419503729 30.0105431
	-1.424994507 30.00793117
	-1.4272536 30.01000509
	-1.424027273 30.01233588
Malaba-KE	0.638975194 34.26871504
	0.636327593 34.26736554
	0.63290517 34.27446946
	0.635114092 34.27545816
	0.638975194 34.26871504

FOR FURTHER INFORMATION, KINDLY GET IN TOUCH WITH US AT:

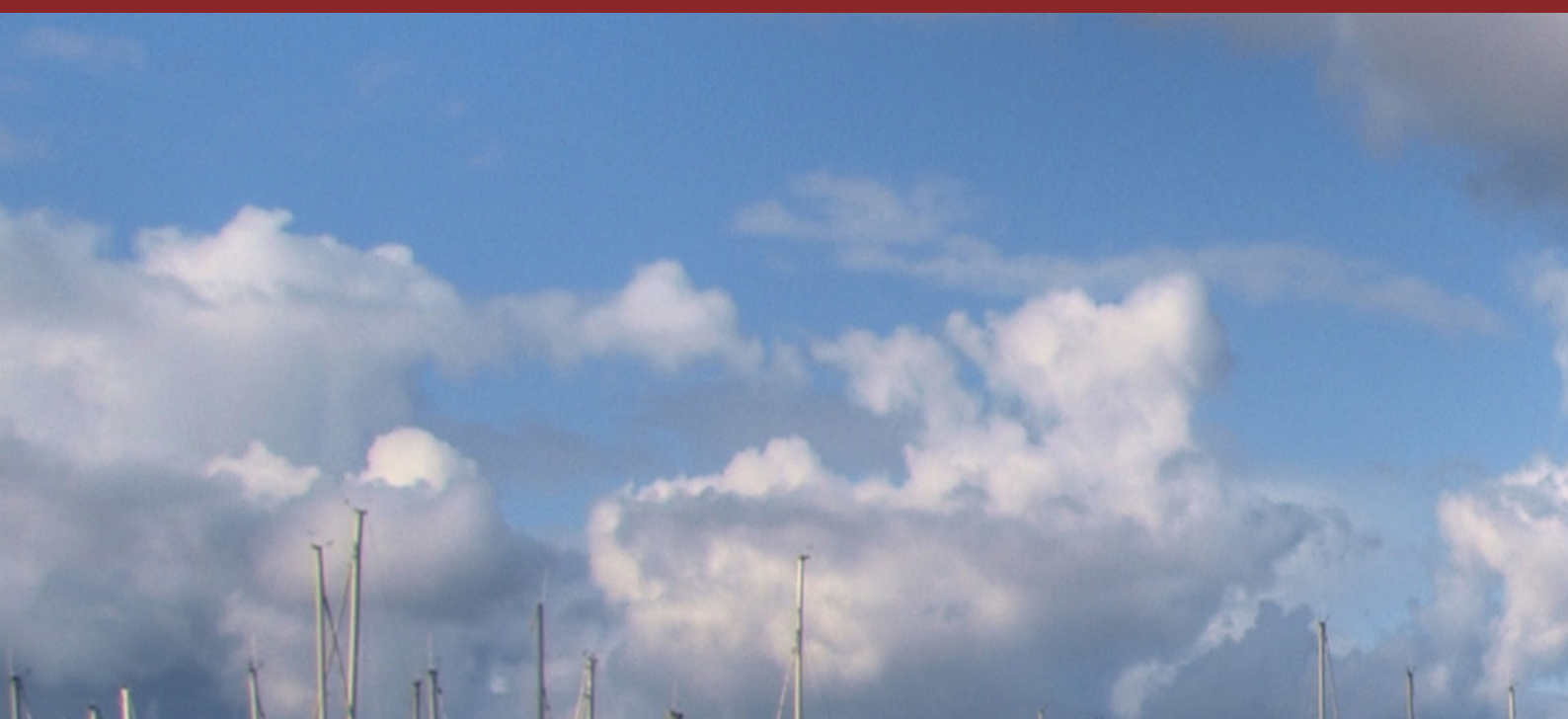
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